General idea

Provide custom SQL expressions which Hibernate will apply while reading from and writing to a database column.

Define a *@ColumnTransformer*

The *@ColumnTransformer* annotation supports 3 optional attributes:

- The *forColumn* attribute defines for which column the expressions shall be used.
- The *read* attribute defines the SQL expression that Hibernate applies when reading the database column.
- The *write* attribute defines the SQL expression that Hibernate uses when writing to the database column.

```
@Entity
public class Customer {


  …


  @Column
  @ColumnTransformer(
       read = "pgp_sym_decrypt(creditCardNumber, 'mySecretKey')",
       write = "pgp_sym_encrypt(?, 'mySecretKey')")
  private String creditCardNumber;


  …
}
```

Use a @ColumnTransformer

Hibernate applies the SQL expressions for every read and write operation in a transparent way. You can use the entity and its attributes in the same way as any other entity or attribute.

```
Customer c = new Customer();

c.setFirstName("John");

c.setLastName("Doe");

c.setCreditCardNumber("1234 5678 9012 3456");

em.persist(c);
```